Space technology can help sustain Earth

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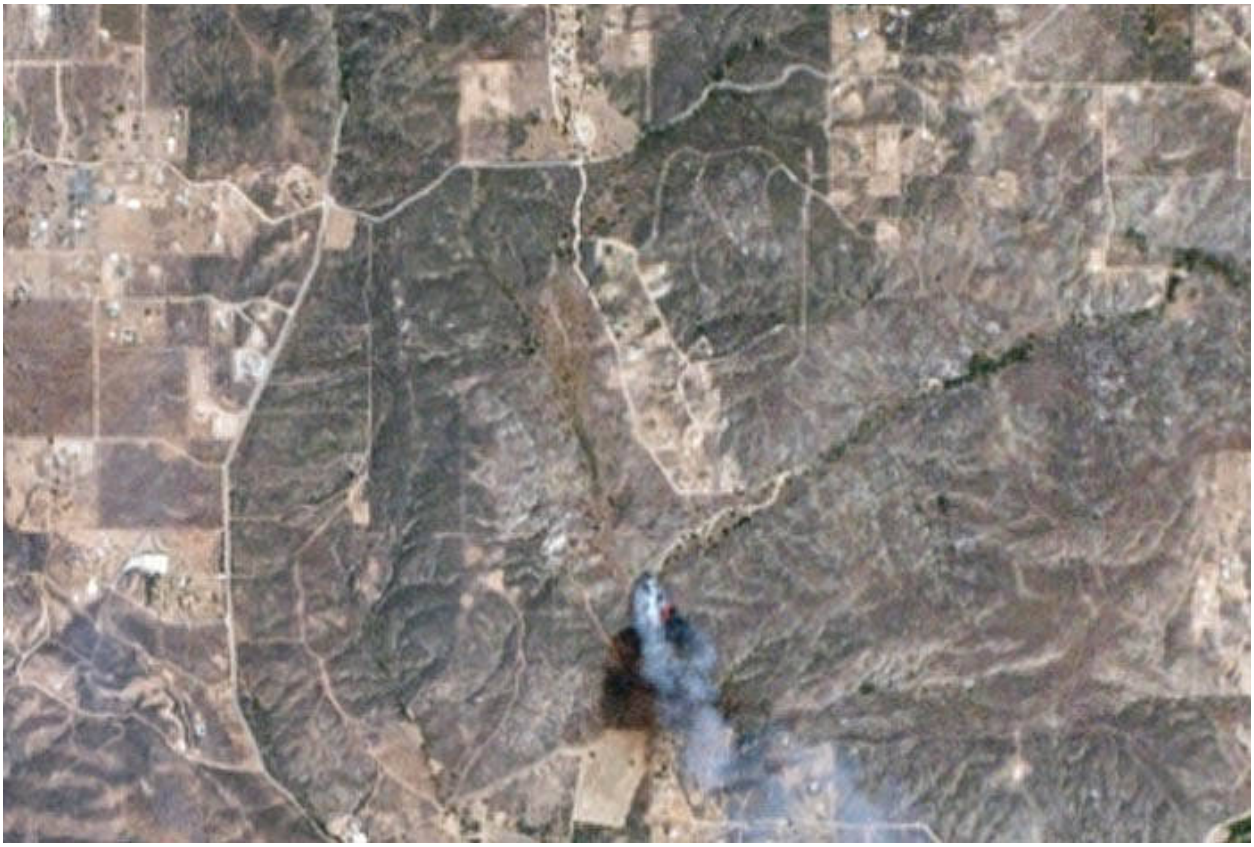

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... Planet Labs, a San Francisco-based space startup, was born in the garage of the Bay Area's Rainbow Mansion with the mission of using space to help life on Earth. Planet Labs recognized that the high cost and low cadence of existing government and commercial Earth-imaging platforms made them insufficient for detecting change—be it in in villages, forests, or economies—on our planet on a timescale required to detect many problems. These spacecraft were so large and expensive that we could operate just a few at any given time, taking months or even years to acquire a complete picture of our planet.

Planet Labs aimed to create Earth-imaging spacecraft—called 'doves' as a symbol of their peaceful mission—that are a fraction of the size and cost of any other Earth-imaging spacecraft. They are succeeding. With access to this high-cadence data,

the Amazon Conservation Association was able to prove the perpetration of illegal gold mining in Southern Peru in images spanning just three months, from January 2016 to March 2016, hardly a month after the images had been collected. With their constellation of dove satellites, Planet Labs captured imagery of the Sabina forest fire in 2014 just ten minutes after the fire was reported, helping to estimate the spread and extent of the fire.

Descartes Labs, a startup spun off from Los Alamos National Laboratory, is using the influx of data from Planet Labs and other Earth imagery providers to predict corn crop yields faster and more accurately than previously possible by the USDA at a resolution of 1/500th of an acre. San Francisco startup Space Know is synthesizing thousands of images from these imagery companies to provide an objective means of assessing the health of manufacturing in China's economy. This Earth data deluge is also being used by startup Orbital Insight to monitor global and local changes in surface water at a timescale on the order of weeks to understand the intensity of the drought in California and other parched regions ...

Read more.

June 1, 2016 By Hannah Kerner - Scientific American